System Configuration Team (SCT)

Reasonable & Prudent Measure #26
Meeting Notes
October 21, 1998

I. Greetings and Introductions.

The October 21 meeting of the System Configuration Team was held at the National Marine Fisheries Service offices in Portland, Oregon. The meeting was co-chaired by Bill Hevlin of NMFS and Jim Ruff of the Northwest Power Planning Council staff. The meeting was facilitated by Jacqueline Abel. The agenda and a list of attendees for the October 21 meeting are attached as Enclosures A and B.

The following is a distillation (not a verbatim transcript) of items discussed at the meeting, together with actions taken on those items. Please note that some enclosures referenced may be too lengthy to routinely include with the meeting notes; copies of all enclosures referred to in the minutes are available upon request from Kathy Ceballos of NMFS at 503/230-5420.

II. Completion of Priorities for FY'99 CRFM Program.

Witt Anderson of the Corps opened the meeting by reporting that, under the budget package which has now passed the House and Senate, the CRFM program will receive an additional $35 million in FY'99, in addition to the $60 million that has already been appropriated. What that means is that, after savings and slippage ($4 million to $7 million), and after the Corps' $4 million payback to Alaska and $1.8 million payback to Elk Creek, we will have between $82 million and $85 million to work with in FY'99, Anderson said. In response to a question from Ron Boyce, Anderson said it isn't carved in stone that those paybacks have to be made in FY'99; that question can be taken up as we go through the list of priorities, said Anderson. The Corps' preference would be to pay it back this year, he added, because we don't have any idea what our budget will be next year.

Hevlin distributed Enclosure C, a spreadsheet showing the priorities developed by the SCT at its last meeting. As you'll recall, he said, with the exception of the Shoshone-Bannock Tribes and CRITFC, we were pretty much in agreement with these priorities, down to about the $54 million level. Since that meeting, Hevlin said, given the new budgetary information, the Corps developed a new list of COE priorities for FY'99 (attached as Enclosure D), as did NMFS, in coordination with the state fishery agencies (this list is attached as Enclosure E).

What I suggest, Hevlin said, is that we go through the list the SCT came up with at its last meeting (Enc. C) item by item, to briefly discuss the changes in cost for some of the items. Along the way, we can mark the items we would like to discuss in more detail later in today's meeting, once we have a picture of the program as a whole. After some minutes of discussion, it was so agreed.

The first item discussed was "Lower Granite Surface Bypass (Critical);" Hevlin explained that the Corps has requested that FY'99 funding for this item be increased by $500,000, to $2.4 million. The reason for that is that we now have information on the contract claim, Anderson said; it looks as though that may be $1 million, rather than $500,000 as we had previously thought. In response to a question, Anderson said the $2.4 million is for closeout costs only, and does not include funding for a test in 1999.

Moving on, Hevlin touched on the "Separator Evaluation – Mothball" line-item; if you'll recall, he said, at our last meeting, it was agreed to fund this item at $200,000 in FY'99. The Corps and NMFS are now proposing to bump that to $1.2 million in FY'99, to restore the full scope of this item, including 1999 testing.

The next change is The Dalles Surface Bypass Evaluation, where FY'99 funding has been increased from $0.8 million to $1.65 million, Hevlin continued. Again, said Anderson, this increase is to restore the full scope of this project, including hydroacoustics and radio telemetry. Moving on to the "Bonneville Powerhouse 1 DSM Deferred" line-item, Hevlin said funding for this item had been reduced to $1.5 million; the proposal now is to restore $2 million to this item, to bring its FY'99 funding level up to $3.5 million. This will cover the design work necessary to keep us moving forward, and keep the option of a year-2000 contract award for the PH1 outfall DSM work open, Anderson explained. If we continue on this path, there will be an additional design cost of $2.4 million in FY'00; this will allow us to complete construction of the DSM outfall in 2002, he said.

Moving on, Hevlin touched on the "System – Adult PIT" line-item. The Corps increased funding for this item from $50,000 to $150,000; on the NMFS list, it stayed at $50,000, he said. I think $150,000 would be a good placeholder for this item, said the Corps' John Kranda – we need to scope out our participation, and the total may be less than that when we're done. We'll leave it at $150,000 for now, Hevlin said.

The next item is "McNary Extended Screens (Critical)," said Hevlin. We had this down for $2.1 million in funding in FY'99; the Corps has requested that we restore the full scope on this item. That's essentially correct, said Anderson – we would like to restore the long-term debris handling equipment and the stoplog safety issue, bringing the FY'99 total to $3.25 million. Does that close the book on the capital part of this project, and does it now go to O&M funding if we agree to fund this? asked Jim Ruff. We hope so, but there may be some additional capital costs in FY'00, Anderson replied -- what we're trying to do is get this functional and off the Construction General account book. Steve Rainey of NMFS added that, because of concerns about problems with the McNary juvenile bypass system, NMFS is recommending that the Corps do an evaluation of that system, to identify what problems may in fact exist and if there is a need to make some improvements. For that reason, NMFS is recommending an additional $200,000 in FY'99 funding for this item, bringing the total cost to $3.45 million. We're OK with that – we can scope something out if the SCT agrees that this work is needed in FY'99, Anderson said.

Moving on, Hevlin said it has been proposed that the cost of the Little Goose Extended Screens line-item be increased from $1 million to $1.2 million, to restore the log boom component. For the Bonneville Surface Bypass High-Flow Outfall Investigation line-item, NMFS and the Corps are proposing that funding be increased from $900,000 to $1.5 million, he said. That will give us the ability to look at both the corner collector and Powerhouse 1 surface

bypass, Anderson said – it's an expansion in scope, essentially.

The next change is in the Bonneville Surface Bypass B1 Prototype Second Year Test, Hevlin said. On the Corps list, this is broken out into two separate items, said Anderson – the second year test at $1.8 million, which would include the design for the expansion to Units 1 and 2, and $1.5 million to do a limited test with the existing structure in 1999. That brings the FY'99 total for this item to $3.3 million. NMFS is comfortable with that, Hevlin said.

The next change in proposed funding level is the Gas Fasttrack line-item, said Anderson; the Corps is proposing that we restore funding to the full scope, plus juvenile radio tracking at Ice Harbor and Lower Monumental (fish egress from the tailrace under high-spill conditions), as suggested by NMFS. That would bring the FY'99 funding level for this item to $3.5 million. The proposal we currently have from NMFS doesn't adequately address the relevant issues, said Rock Peters of the Corps – we need to take this back to FFDRWG and get a re-scope of the entire proposal. In my mind, it needs to look not only at spill effectiveness and efficiency, but spill survival. Really, it's a spill optimization issue, which needs to be completely re-scoped, Peters said. Whether or not $500,000 is adequate, I can't tell you – at this point, it's just a placeholder, said Peters.

On the "System -- Gas Abatement" line-item, NMFS is proposing that we increase FY'99 funding from $550,000 to $1.5 million, Hevlin said. The Corps agrees, said Anderson – as you recall, we originally proposed $1.83 million, but we think that may have been an over-estimation.

The next change is to the "System – Turbine Passage/Bonneville MGR Test" line-item, Hevlin said – our proposal is that funding for this item be restored to its original scope of $1.4 million from $500,000.

The next item we should probably discuss is extended-length screens at John Day, Hevlin said. We had this item funded at $2.6 million in FY'99 on both the SCT and NMFS lists; on the current Corps list, it's at $800,000. The $800,000 funding level includes plans and specs, modifications to the orifice valves, hydraulic model work to confirm what we saw in the modeling of the Lower Granite screens in 1996, Anderson said. That's a two-year time-frame, meaning that we would not make a decision to implement until 2000. At the $2.6 million funding level, we would get the three prototypes modified and installed; we would get biological testing in 1999, with the balance of the work done in 2000. Again, this is a two-year track to a decision point, said Anderson. At the $4.5 million funding level, we would do all of the engineering work and testing in 1999, with a decision to be made at the end of 1999 if everything pans out. That would allow us to go into procurement in 2000, he explained.

Our logic, in recommending the $800,000 funding level in 1999, is that, if we're moving toward a two-year schedule for the decision point, that entails less investment and less risk, Anderson said. We may find something through the modeling work that isn't quite right, we could make the necessary modifications and still do the testing in 2000.

Moving on, Hevlin noted that the "Lower Columbia – Feasibility" line-item had been funded at $500,000; NMFS is proposing that the dollar amount for this item be reduced to $150,000. The Corps is OK with that, Anderson said – $150,000 would allow us to take the first steps and lay out the scope and schedule of what we plan to do. Hevlin noted that the "System –

Separator Evaluation Testing" line-item has now been folded into the "System – Separator Evaluation Mothball" line-item, ranked at score 599 on the list.

Next, the group discussed the "John Day – Surface Bypass – Spillway Weir Test" line-item; given the fact that the meteorologists are now telling us that, due to La Niña, we have an 80% chance of average or above-average streamflow in 1999, the Council feels this is a low-priority item, said Ruff. Anderson and Hevlin said the Corps and NMFS concur with this position, because this is intended to be a low-flow test.

Moving on to the "Lower Granite Surface Bypass Testing – Additive Items" line-item, Hevlin said there are several potential alternative approaches to this project. We've already talked about one alternative, which is contained in the "Lower Granite Surface Bypass (Critical) line-item, ranked at score 600, above, Hevlin said. Anderson said other potential alternative approaches include adding the $2.9 million "Lower Granite Surface Bypass – Testing and M&E" line-item, ranked at score 200, below, back into the "Lower Granite Surface Bypass (Critical)" line-item, which would cover both closeout costs and the cost of limited spring testing (including both hydroacoustics and radio telemetry) in 1999. To conduct a full test, he said, we could add in the $1.73 million currently contained in the "LGR Surface Bypass Additive Items" line-item; Mike Mason of the Corps said the $1.73 million in additive items would include additional monitoring and evaluation, summer testing and numerical and WES modeling. This would bring the total cost of Lower Granite surface bypass testing to just over $6.5 million in FY'99.

Moving on, John Kranda said that the Corps is now recommending a total of $600,000 for John Day JBS monitoring/juvenile and adult fish improvements; this is less than the amount originally proposed for these items. The Corps now has better cost estimates for the juvenile and adult measures, and the costs have gone down, he explained.

The next item discussed was "Bonneville – Surface Bypass Behavioral Tests" at $1.5 million; as you'll recall, said Doug Clarke, this was the project FPE evaluation, which slid off the
table from a priority standpoint. There was general agreement that this item should be re-labeled "Bonneville Project FPE," with no change to the $1.5 million funding level. In response to a question, Anderson said the "John Day – Navigation" line-item has essentially been scratched; the District has been ordered to do a low-cost study of what the problem is.

The next several items are Bonneville-related, Hevlin said; both NMFS' and the Corps' list of Bonneville priorities have been altered to such an extent that I can't tell you for sure what's already funded and what isn't. The Corps explained that the first "BON – Surface Bypass – B2 Corner Collector" line-item is essentially a 1999 re-test of the corner collector; the second "BON – Surface Bypass – B2 Corner Collector" line-item is for the development of a B2 corner collector prototype for a year-2000 test; the Corps is now estimating that this will cost $1.7 million, rather than $1.5 million, in FY'99. It was explained that NMFS has proposed that the year-2000 test not go forward, but that the Corps instead move toward permanent installation and the identification of a permanent outfall location, an alternative that would cost $1.5 million in FY'99. It was agreed to rename this line-item the "B2 Corner Collector Fasttrack."

The next project discussed was the "B1 Phase 2 Prototype Development" line-item, design work for the Phase 2 prototype. There is general agreement that this project will be

deferred pending the outcome of the year-2000 test, said one Corps participant. Moving on to the "BON – Surface Bypass – Guidance Curtain Investigation" line-item, the Corps said this has not been considered a high priority on anyone's list. The same is true of the "BON – Surface Dewatering" line-item, the Corps participant added.

Moving on to the "McNary Fish Ladder Exit Modifications" line-item, Mason said the Corps supports restoring funding for this project in FY'99. It's essentially a maintenance issue, which we've been discussing for years, he said – we would like to replace the existing weirs with fixed weirs. Since there is some additional money available this year, he said, we would at least like to scope this project, to see exactly what needs to be done and how much it might cost.

NMFS has added two additional line-items to the FY'99 list, Hevlin said – "System – Multiple JBS Passage Survival" (FY'99 cost: $740,000) and PIT-Tag Estuarine Detection/Recovery (FY'99 cost: $560,000). These items also appear on the Corps ' list of priorities, Anderson said.

So that's the list, said Abel. I would suggest that we now spend a few minutes discussing any controversial items in more detail. We should also discuss whether the group feels it can come to any final decisions today, given the fact that we've heard a lot of new information during this morning's session. My proposal would be for the group to try to reach agreement on a package of items up to a certain dollar amount, somewhat less than the $82 million-$85 million we think we'll have to spend in FY'99, Ruff suggested. We may not be able to reach complete agreement on the full list of FY'99 priorities, but we should be able to get higher up on the spending list.

Boyce said that, given the number of changes, both in item cost and priority, that NMFS and the Corps are proposing, and the fact that the SCT has heard about these changes for the first time at today's meeting, the salmon managers would like an opportunity to review and provide input on the proposed changes before a final decision is made. Actually, I don't think there is a lot of new information here, Hevlin said -- with the exception of some work at Bonneville, all we've done is restore funding to some of the items that were cut when we thought we were only going to have $60 million to work with in FY'99. After some minutes of discussion, it was agreed to convene an SCT conference call to finalize the list of FY'99 CRFM priorities on Monday, October 26.

The group spent a few minutes discussing how best to proceed with today's prioritization discussion; ultimately, it was agreed to go back through the list in an effort to identify controversial items which need further discussion before the SCT can agree to them, or elevate them to the IT.

The first potential "hot spot" identified was the John Day extended screens line-item, and the various FY'99 funding options identified earlier in today's meeting. Ultimately, it was agreed that the majority of SCT participants support the $2.6 million funding level for John Day e-screens in FY'99, the "go slower" option which includes the construction of three additional prototype screens, plus biological and lamprey effects testing in 1999. Ruff disagreed, saying that the Council is concerned about the risk of spending $2.5 million to modify these screens when there may still be structural and engineering flaws in this screen design. We could find ourselves spending another $2.5 million next year, to do the same thing all over again, he said.

However, said Ruff, I probably am not going to object to this, because of the assurances I've received that as soon as we finish testing this screen prototype, the installation question will be put on the shelf until we test surface bypass at John Day sufficiently so that we can compare the two routes of passage. I'll second that – that is Idaho's position as well, said Steve Pettit.

The second "hot spot" discussed was the 1999 Lower Granite surface bypass test. After some minutes of debate, there was general (but not unanimous) SCT agreement to fund this at $4.8 million in FY'99, with the understanding that the 1999 surface bypass test at Lower Granite will not interfere with the Biological Opinion spill program at this project. The $4.8 million funding level includes the $1.9 million "Lower Granite Surface Bypass – Critical" and $2.9 million "Lower Granite Surface Bypass (Testing M&E)" line-items, covering operation of the surface bypass system, closeout costs from the 1998 test, and monitoring and evaluation for a 1999 test. Another option put forward by the Corps was to re-test this structure in 2000, but not 1999, with somewhere between $2.4 million and $2.9 million needed in FY'99 for the "LGR Surface Bypass – Critical" line-item, plus some additional modeling and design work.

After some minutes of further debate, it was agreed to discuss this issue in more detail at the October 26 conference call, with the goal of making a final decision at that time.

Toward the end of the meeting, Hevlin distributed an updated FY'99 CRFM spreadsheet, which included all of the cost changes discussed earlier in today's meeting; this update list of funding priorities is attached as Enclosure G. Hevlin noted that the only item that has now been moved into the top (funded) category is John Day extended screens; this $2.6 million project is now the last item in a list of prioritized FY'99 projects totaling $68.835 million in cumulative cost. Dave Hurson asked that, based on this morning's discussion, the "McNary Fish Ladder Exit Modifications" line-item be assigned a score of 200, putting it into the funded category; Hevlin made a similar request for the two new items, "Multiple JBS Passage Survival" and "PIT-Tag Estuarine Detection/Recovery." Hevlin said that a number of other items have been assigned a score of zero, pending further discussion at the October 26 conference call. It was noted that the cumulative cost of all of the items scored at 200 and above is just over $81 million. It was agreed that the new spreadsheet (Enclosure G) will provide a starting point for Monday's discussion.

The group also devoted a few additional minutes to a discussion of Bonneville issues. After this morning's discussion, Hevlin said, there was still some confusion about the program at Bonneville, and the priorities for testing in 1999 and 2000. NMFS' Gary Fredricks said that, as most SCT participants are aware, Bonneville has the lowest guidance, the lowest FPE, the lowest amount of spill, probably the worst survival, and the most fish, of any project in the Lower Columbia. Bonneville has a lot of problems, and it's going to take multiple years to fix them, Fredricks said.

The crux of the problem is spill, he continued – we just don't have the spill capacity at Bonneville to meet FPE goals or survival goals. That is mainly due to the gas cap and the adult spill cap, two items we're going to be looking at beginning in 1999, Fredricks said. One of the main study elements in 1999 will be the adult spill cap and potential alternatives to the current adult spill cap – a lower cap, a higher cap, or possibly no cap at all. We will also be looking at the gas cap, Fredricks said; under the gas fasttrack program, we'll be looking to increase that cap,

but that's a few years out. The bottom line is that, while we may be able to tweak spill a little bit, that still isn't going to get us to the survival goal, Fredricks said.

With that in mind, we're going to turn our attention to the two powerhouses, and possible ways to increase guidance there, Fredricks continued. At Powerhouse 1, we're looking at either surface collection or screens – at this point, we're not looking at a hybrid system. The research we're planning for 1999, in my mind, is going to get us to a decision point for either one or the other by 2000, Fredricks said. We'll be looking at surface collection with the 2000 study, plus a pilot study in 1999 to perfect the techniques we will use in 2000. In 2000, we want to be sure we get a good look at surface collection capabilities, at least in the forebay, he explained. That test, combined with fish guidance efficiency tests with the extended screens, should give us the information we need to make a decision on one track or the other, said Fredricks.

In response to a question from Woodin, Kranda said the "Bonneville PH1 FGE" line-item ($300,000) is to cover closeout costs and preparation for the year-2000 test. The only other Bonneville 1-related item is the high-flow outfall investigation, which actually includes both Powerhouse 1 and 2, Fredricks said. In response to another question, Kranda reiterated that the "Bonneville – Surface Bypass Behavioral Tests (FPE)" line-item should actually be called "Bonneville FPE" – it's going to be a project-wide FPE evaluation. This test really won't tell us anything in 1999, Fredricks observed – it would make a lot more sense to do it in 2000, once everything is wired. After a few minutes of discussion, it was agreed to defer this project until FY'00.

Moving on to Bonneville 2, Fredricks said the new outfall is going in, starting in FY'99; what we're looking at for this powerhouse is a combination system that includes both surface collection and a screen bypass system. To me, said Fredricks, the most important thing we need to look at is the corner collector outfall – where to put it and how to measure survival through that route. Second, he said, we need to be able to measure survival through the new outfall we're constructing this year – if survival isn't as good as we think it should be, that's really going to change our approach to the Bonneville project. In response to a question from Ruff, Kranda said the latter evaluation is included in the $21.9 million "Bonneville PH2 DSM" line-item.

The other important question about Powerhouse 2 is, do we want to test survival through the existing sluice chute, potentially killing a lot of river-run fish, or do we want to build a new outfall before we test survival? Fredricks said.

The group discussed the "Bonneville PH2 FGE" line-item; Steve Rainey observed that Powerhouse 2 FGE has not been evaluated in the 1990s, so there is some argument for doing this test in 1999. We discussed this item in-house, Hevlin said, and NMFS feels $300,000 would probably be a more realistic figure than $1.2 million in FY'99 – that would give us a scoping report on the possibilities. The $1.2 million requested by the Corps would cover modeling as well as scoping, he explained.

I believe the "Bonneville Surface Bypass – B2 Corner Collector Development" line-item is to begin developing the modifications to the corner collector for the FY'00 test, Fredricks said. That's correct, said Kranda, but we still need to answer the outfall question.

What's really needed is a full meeting on Bonneville issues, Fredricks said – there is

some new information from WES we need to discuss, and there are a lot of areas where our direction needs some more clarification. In general, he said, in my mind, the number one research need at Bonneville is survival information project-wide, through all routes of passage. There are also operational measures – which powerhouse should be the most important priority to run next year? In addition, there are guidance devices – does a guidance curtain still make sense at Powerhouse 2, or should it be at Powerhouse 1? These are all things that need some further discussion, he said.

III. Update on Systemwide Gas Abatement Planning Process.

Jim Ruff reported on the most recent general meeting of the Transboundary Gas Group, held October 15 in Vancouver, B.C. The turnout was good, he said; there were more than 40 people in attendance, including a number of representatives from Environment Canada, the B.C. Ministry of the Environment, Land and Parks, as well as B.C. Hydro and consultants from various Canadian entities. There were also representatives from various U.S. federal agencies, the Colville Tribe and the states of Washington and Idaho, Ruff said. There was also a representative from the Columbia River Treaty, and a representative from the International Joint Commission, he added.

We spent most of the day discussing the goal and objectives of the transboundary gas effort, as well as progress toward the development of a study plan, he continued. We did agree on an overall goal for this effort: to reduce systemwide total dissolved gas to levels not harmful to all aquatic life in the most cost-effective manner possible, said Ruff. A target TDG level was not identified, he added in response to a question; what we discussed was trying to reduce TDG to the level that is most practicable and feasible.

The objectives of the Transboundary Group's effort will be, first, to define its scope and geographic area; we agreed that the scope was the entire Columbia River Basin, Ruff said. On the question of geographic area, we discussed trying to set different priorities for efforts in different geographic parts of the basin, he continued; to date, we've been talking mainly about the Upper Columbia area. There is a general recognition that the Corps' gas abatement effort for the eight federal projects on the Snake and Columbia Rivers is further along than all of the other projects, he added – we're trying to get the other projects caught up, so that information can feed into the Corps' effort. In response to another question, Mark Schneider said the group has defined "Upper Columbia" as Chief Joseph and above.

The second objective we're working on is to identify the status of the current dissolved gas monitoring programs in both the U.S. and Canada, said Ruff, as well as additional monitoring needs, and data management/data sharing. It's an inventory, if you will, of all of the current gas monitoring efforts, he explained. In terms of the structure of the group, he added, in addition to the Transboundary Gas Group as a whole, we've broken out work groups, each co-chaired by one Canadian and one American representative, to address the following subjects: a steering committee, to coordinate the efforts of the various technical work groups; biological effects and research, monitoring and information sharing, modeling, and structural and operational gas abatement.

The third objective, once we get all of the data together, is to investigate where the gas hot spots are in the basin, Ruff said. After that, we'll identify a physical model that can be used

to analyze systemwide total dissolved gas, as well as options to abate gas. One of the tasks assigned to the modeling subcommittee is to develop a white paper on modeling options for physical gas. I should add that the premise of all of this is not to actually do the work, but to come up with a study plan that will get the work done, Ruff explained. Funding will be derived from a variety of sources, he added.

The fourth objective, once the model is built, will be to identify and analyze operational and structural options, similar to what was presented today for Grand Coulee, only on a systemwide basis, said Ruff. The fifth objective is to identify additional research needs relating to both the biological and physical effects of gas and operational and structural alternatives. The final objective is to develop and recommend an action plan for systemwide gas abatement, Ruff said.

One comment I would have is that the overall goal of the Transboundary effort is a little nebulous, observed Rod Woodin – is there some reason why you can't at least establish a target range of TDG values you would like to bring about? I'm sure that's where we'll end up, said Mark Schneider – we have had some discussions of just that question, and there is a recognition that we're going to have to get back to it, probably once we get some of the modeling results.

In response to a question from Dave Hurson of the Corps, Ruff said that, while the Transboundary group has set additional meetings, there are no deadlines, as yet, for the individual work products. Kranda asked whether there is a chance, in Schneider's opinion, that the activities of the Transboundary Gas Group, or the results of this systemwide study, might effect operations at projects throughout the system. Yes, I think that is a possibility, Schneider replied. I think that's why the IT asked that this work be done – the hope that there may be operational changes that could minimize, or even obviate, the need for drastic structural modifications.

After some minutes of further discussion, there was general agreement that, given the pressures on the Corps and Reclamation to fix the problems at their mainstem projects, the sooner the results of this systemwide analysis are available, the better. Hurson requested that the Transboundary Gas Group begin setting timetables for the delivery of its work products as soon as possible. We'll do our best, said Ruff.

Mary Lou Soscia said the Environmental Protection Agency has made a commitment to develop the gas model Ruff mentioned above; we will begin that effort as soon as we wrap up our temperature model this fall, she said. I think that's going to be a pretty significant resource, she said; we're in the process of gearing up funding for the data collection needed to support the model. EPA is also going to put some money on the table to do an EPA protocol peer review of the Corps dissolved gas study, Soscia added. In response to a question from McClendon, Soscia said EPA's modelers in Seattle will be doing the actual work.

## IV. Presentation on USBR's Appraisal-Level Report on Gas Abatement Alternatives for Grand Coulee.

Reclamation's Kathy Frizell provided an overview of the just-released conceptual-level design report on structural alternatives for TDG abatement at Grand Coulee Dam. Frizell spoke

at some length, working from a series of overheads. These overheads are attached as Enclosure F; please see this document for details of her presentation.

The Grand Coulee TDG abatement alternatives the Bureau carried forward into conceptual-level study include:

Alternative Estimated TDG Reduction Total Estimated Cost
1. Extend and cover mid-level outlets None; would transfer forebay TDG level without increasing $105.3 million
2. Forebay pipe with diffuser None; would transfer forebay TDG level without increasing $326 million
3. Outlet works deflectors (minimal) Reduces TDG compared to existing condition (if tailwater fluctuations minimal). Estimates range from -5.5% to + 2.3% TDG $39 million
4. Outlet works deflectors (all) Reduces TDG compared to existing condition (if tailwater fluctuations minimal). Estimates range from -1% to -2.6% TDG. $130 million
5. Forebay pipe with cascade Estimated to reduce reservoir TDG levels by 3%-5%. $293 million.

Frizell noted that alternatives 2 and 5 assume a nine-month, $66 million power loss during their construction period; the other three alternatives can be constructed with no power loss. She then presented the following conclusions from the conceptual-level study:

? The study presented conceptual designs for five alternatives; the final selection of three alternatives for feasibility-level study will be made from among these five alternatives.

? There was a strong relationship between TDG benefit and cost – i.e. the most costly alternatives showed the greatest TDG benefit.

? Reclamation plans to study the alternatives to 50 Kcfs or their structural limitations – i.e. 20 submerged outlets or deflectors and pipe sizes for forebay alternatives.

? Comments are needed regarding a different flow rate and rationale, feasibility-level alternative selection.

? Reclamation needs written comments from the SCT by November 30 in order to continue

on schedule with feasibility studies.

Frizell added that tomorrow's SCT/DGT meeting is intended as an opportunity for the groups to explore and comment on the technical foundation of this conceptual-level report in more detail. It was agreed that the SCT will also have an opportunity to discuss this issue at its November 18 meeting; Hevlin asked that, if possible, the other SCT participants provide their comments to Kathy Ceballos for distribution prior to the November 18 meeting.

How does this study fit in with the systemwide gas abatement effort that is currently underway? Ruff asked. It seems to me that, if we're successful in implementing this study plan with the Canadians, we may be able to reduce the TDG levels coming into Lake Roosevelt, which would make some of the cheaper alternatives look even better. We have to address the gas
that we create by spilling at Grand Coulee, regardless of what is accomplished in the systemwide gas abatement effort, Monte McClendon replied. Currently, if we spill 50 Kcfs from the outlet tubes at Grand Coulee, we're creating some pretty high TDG levels, and we have to take care of that, he said. That doesn't mean that when we finish this feasibility study, we will be making an immediate decision to implement, McClendon said – we may be able to hold off until the systemwide gas abatement study is complete.

VI. Next SCT Meeting Date and Agenda Items.

The next meeting of the System Configuration Team, a technical discussion of the Corps' report on Grand Coulee gas abatement alternatives, was scheduled for Thursday, October 22. Another meeting, to complete the discussion of FY'99 CRFM priorities, was set for Monday, October 26. Meeting notes prepared by Jeff Kuechle, BPA contractor.